Load Integration Capacity Analysis Refinements Workshop

March 8, 2023

California Public Utilities Commission

This Event is Being Recorded

Webex Logistics

- All attendees have been muted.

- Note: Please feel free to ask questions in the chat

- To Ask questions, please use the **Chat** function and make sure that you select "Everyone" in the To: field. Chat questions will be read aloud by staff during designated Q&A times.

To: Everyone ⌄

Enter chat message here ▷
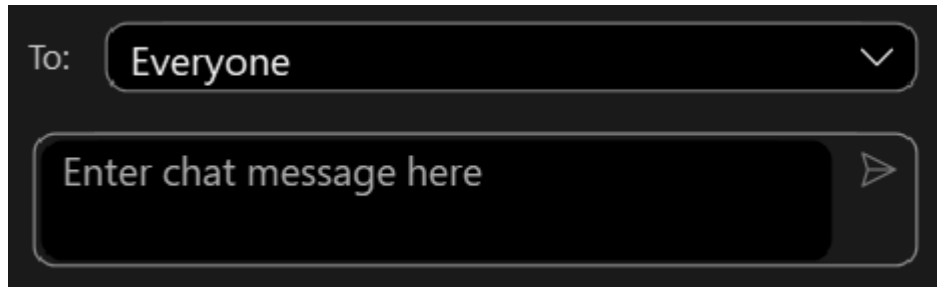
Opening Leadership Remarks

Commissioner Darcie Houck, CPUC

President Alice Reynolds, CPUC

Workshop Agenda

If sections finish early we will have an early break.

Agenda (6 hours and 40 minutes, including lunch break)

#	Start Time	Agenda Item	Facilitator	Duration

1	9:00 – 9:20 am	Introduction, Logistics and Welcome
		• Opening Remarks
		   ○ Commissioner Houck
		   ○ President Reynolds
			CPUC	20 min

2	9:20 – 9:30 am	High DER Proceeding Overview with focus on Load ICA	CPUC	10 min
3	9:30 - 10:15am	Energization / New Load Overview and Use Case for Load ICA	PG&E, SCE and SDG&E	45 min
		10 Minute Break		
4	10:25 - 11:55 am	Load ICA Refinements Annual Report and Plans to Accelerate the Refinements	PG&E, SCE and SDG&E	90 min
		35 Minute Lunch Break		
5	12:30 – 2:30 pm	Stakeholder Panel Discussion – offering perspective on EV charging station energization process, building electrification and the role of ICA	Stakeholder Panel	120 min with break
		10 Minute Break		
6	2:40 – 3:25 pm	Comments / Q&A	All Attendees	45 min
7	3:25 - 3:40 pm	Closing remarks and next steps	CPUC	15 min

High DER Proceeding Staff Presentation Overview

1. Overview of Workshop Agenda

2. The High DER Proceeding

3. Data Portals and Integration Capacity Analysis

High DER Grid Planning Proceeding Overview (2021–2024)

In response to State climate goals, the California Public Utilities Commission (CPUC) opened the High Distributed Energy Resources (DER) proceeding in 2021 to:

- Enable swift evolution of PG&E, SCE, and SDG&E grid capabilities and operations to **integrate solar, storage, electric vehicle/electric vehicle supply equipment** and other DERs to meet the State's 100 percent clean energy goals;

- **Improve distribution planning**, including charging infrastructure forecasting to support cost effective and widespread transportation electrification; and

- Optimize grid infrastructure investments by **facilitating community input** about planned developments, DER siting plans, and resiliency needs.

# We Anticipate a High-Penetration Distributed Energy Resource (DER) Future

"This OIR anticipates a high-penetration DER future and seeks to determine how to optimize the integration of millions of DERs within the distribution grid while ensuring affordable rates."

<div align="right">

– High DER OIR at p. 9

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"This OIR neither seeks to set policy on the overall number of DERs nor does it seek to increase or decrease the desired level of DERs. This OIR focuses on preparing the grid to accommodate what is expected to be a high DER future and capture as much value as possible from DERs as well as mitigate any unintended negative impacts."

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– High DER OIR at p. 10

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Three High DER Proceeding Tracks

1
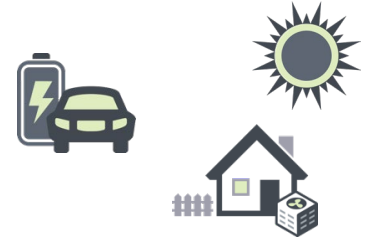
Distribution Planning Process and Data Improvements

➤ Phase 1: Near-Term Actions

➤ Phase 2: Distribution Planning Process Improvements

➤ Topics:
- IOU Distribution Planning Processes
- Electrification Impacts and Potential Mitigation
- **Data Portals**
- Community Engagement Needs Assessment for Distribution Planning

2

Distribution System Operator (DSO) Roles and Responsibilities

➤ Long-term grid vision(s) and associated policy issues

➤ Investigation of grid operations models

➤ Future Grid Study development and public outreach

➤ Future actions identified that could lead to a successor proceeding

3

Smart Inverter Operationalization and Grid Modernization Planning

➤ Phase 1: Smart Inverter Operationalization

➤ Phase 2: Grid Modernization Planning and Cost Recovery

➤ Topics:
- Business Use Cases for Smart Inverters
- DER Dispatchability
- Smart Grid Investment Planning

Track 1 Scoping Question about Data Portals and ICA

Track 1: Distribution Planning Process and Data Improvements

Phase 1: Near-Term Actions

- Question 4: How should Integration Capacity Analysis data and calculations be improved to enhance accuracy and usefulness for DER planning, siting, and interconnection, especially with respect to electrification load? Should the Data Portal design be improved to provide access to data for multiple stakeholders in the DPP?

Data Portals and Integration Capacity Analysis

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Data Portals

- PG&E, SCE, and SDG&E have data portals on their website which provide information on the electric distribution system.

- The data portals are comprised of the Integration Capacity Analysis (ICA), Grid Needs Assessment (GNA) and Location Net Benefit Analysis (LNBA).

- The focus of this workshop is on the ICA.

Integration Capacity Analysis (ICA)

- The ICA maps are hosting capacity maps.

- These maps are designed to assist developers find information on the grid where capacity is available to site Distributed Energy Resource(DER) projects.

- There are two types of ICA maps:
  - Generation ICA: The Generation ICA maps provide information on the distribution system's capacity to interconnect new generation.
  - Load ICA: The Load ICA map provides information on the distribution system's capacity to connect new load.

  This workshop will focus on Load ICA only

Load ICA

- On September 9, 2021, the ALJ Ruling ordered refinements to Load ICA. (R.14-08-013)

- The Ruling acknowledged the additional work to be done to ensure that the data is accurate and useful to site new load, "especially as it relates to transportation electrification."

- The Ruling required, starting in the 4th Quarter of 2022, that the IOUs submit an "ICA Refinements Annual Report".

7 Components of the ICA Refinements Annual Report

1. A description of the issues and challenges associated with refining load ICAs;

2. A description of proposed solutions to overcoming the identified challenges with refining load ICA and timeline for implementing proposed solutions;

3. A description of the progress made toward addressing challenges with load ICAs and aligning methodologies;

4. The timeline for implementing the solutions identified;

5. Progress to date implementing the solutions identified;

6. An updated table of aggregated Uniform Load results, similar to that which IREC requested from the utilities on May 4, 2021; and

7 Components of the ICA Refinements Annual Report

7. A summary of IOUs coordination efforts with the California Energy Commission (CEC) on ICA tool updates to facilitate timely updates to the EDGE tool. This report shall be provided to the Energy Division and to the lists Energy Division identifies. This report will remain a requirement until Energy Division or the assigned ALJ terminates it.

The IOUs were directed to host a public workshop to review the topics in the ICA Refinements Annual Report and provide an opportunity for a discussion of the adequacy of the progress. Today, the IOUs will be presenting their ICA Refinements Annual Report.

IOU Led Presentations

- Next, PG&E, SCE and SDG&E will present on:

  - Energization / New Load Overview and Use Case for Load ICA

  - Load ICA Refinements

LUNCH BREAK

The Panelists

Ferdinand Changco

Ferdinand Changco is the Director of Grid Integration for EVgo where he manages a team of Utility Project Engineers who support utility integration nationwide to drive process for electrification of EVgo Chargers. His educational background is in Electrical Engineering ,with an emphasis in power systems, and has previously spent several years working for a large utility provider supporting Gas Ops, Electrical Ops, and EV special programs. His current role with EVgo supports the framework to drive forward new Utility EV business practices, innovation in tools, and acceleration in EV electrification.

The Panelists

Kevin Kushman

Kevin Kushman is a startup veteran, having founded and served in executive roles for both energy technology and infrastructure ventures over a 30-year career.

Since 2020, Kevin has served as the founding CEO of Electrada, an electric vehicle infrastructure company, a BlackRock Climate Infrastructure fund portfolio company that operates across North America. Prior to Electrada, Kevin's 25+ years in the energy tech, software and analytics sectors include CEO and CFO roles with Integral Analytics, Blue Pillar, and Current Group and founding leadership of Cinergy Ventures corporate venture fund. Enterprises led by Kevin have played instrumental roles in the transition of the electric grid and clean transportation to embrace distributed, renewable, resilient, and optimized resources.

Kevin is a graduate of Miami University, with a Bachelor's in economics, and received an MBA from Xavier University.

The Panelists
Matthew Rylander

Matthew Rylander is a Technical Lead Engineer at the Electric Power Research Institute. He currently manages the Advanced Analytics project set within the Distribution Operations and Planning program. His current research activities focus on Grid Modeling, Utilization of Measurement Data, and wide area distribution assessment to support strategic planning. Dr. Rylander pioneered research surrounding hosting capacity analytics and has implemented those analytics within the tool EPRI DRIVETM used by over 35 utilities worldwide. Before joining EPRI, Matthew received his Doctorate from the University of Texas at Austin in 2008 and worked at the Electric Reliability Council of Texas.

The Panelists

Noel Crisostomo

Department of Energy

The Panelists

Taylor Honnette

Taylor Honnette is Tesla's Design Lead for Northern California Charging Infrastructure. He oversees Tesla's project coordination for EV charging projects that include Tesla's ecosystem of products to support electric vehicles: DC fast charging (Tesla Supercharging), AC charging, PV, and BESS. Taylor's team supports utility coordination on individual projects and long-term strategic discussions about capacity and grid planning.

2 Hour Panel Discussion

6 questions for the panelists

1. How do you currently utilize the Load ICA data? How would you like to use the Load ICA data in the future?

2. What barriers or challenges have you encountered using the load ICA data?

3. How do the IOUs Load ICA improvements underway align with and support the goals of EV load siting and energization and building electrification? **BREAK to follow.**

4. How can we further enhance the accuracy and usefulness of the ICA tool for DER planning, siting, and interconnection?

5. How can the Load ICA data be used for siting building electrification projects? What are the existing barriers for this use case?

6. How could the use of the Load ICA tool be leveraged to enhance the IOUs grid planning processes?

BREAK

Questions

- This segment is for the audience to send in comments or questions to CPUC / panelists / IOUs.
- Please use the "**Chat**" (not Q&A).
- In the To: field, select "**Everyone**".
- In your question, **clearly state who the question is for**: a panelist, a specific IOU or the CPUC.
- The hosts will read out your question or comment.

Closing Remarks and Next Steps

Thank you to all the panelists and presenters!

Next Steps:

- Staff Proposal Issuance (TBD)

- Staff Proposal Workshop (TBD)

- Stakeholder Comments Due on Staff Proposal (TBD)

- Proposed Decision (TBD; possibly late 2023 or in 2024)